

Attorney Docket # 4925-220PUS

Serial No. 10/089,899

Amdt. dated June 11, 2004

Reply to Office Action dated February 12, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A m[M]ethod for transmission of an arbitrarily sized sequence of data, [characterized-in-that] wherein [-] the arbitrarily sized sequence of data is transmitted in more than one block, comprising the steps of:

[-the] transmitting a first transmission [transmitted] block [has] comprising a first data portion from the arbitrarily sized sequence of data, said first data portion having a first predetermined length M₁; and

transmitting a second transmission block comprising a second data portion of the arbitrarily sized sequence of data, said second data portion having a variable length S less than a second predetermined length N;

[-] wherein the first transmission [transmitted] block further comprises a field in which [information-indicating] a total [the] length of the arbitrarily sized sequence of data is indicated.

2. (Currently Amended) The [A] method according to claim 1, [characterized-in-that] wherein the length S of the second data portion [part-of-the-sequence-of-data] encoded in the second transmission block is:

$$S = (\text{LENGTH} - M) \text{ MOD } N$$

wherein [M-is-the-length-of-the-part-of-the-sequence-of-data-transmitted-in-the-first-block, N-is-a-predetermined-integer-constant,] LENGTH is the total length of the arbitrarily sized sequence of data, and MOD is the modulo function.

3. (Currently Amended) The [A] method according to claim 1, [characterized-in-that-it] further compris[es]ing [a] the step[s] of:

transmitting [in-which] at least one third transmission block, [of-a-third-type-is-transmitted] wherein N is a length of a portion of data in said at least one third transmission block.

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4. (Currently Amended) The [A] method according to claim 3, [characterized in that the] a number F of said at least one third transmission block~~[s of said third type]~~ is calculated by:

$$F = \text{INT}((\text{LENGTH} - M)/N)$$

wherein LENGTH is the total length of the sequence of data to be transmitted, ~~[M is the length of the part of the sequence of data transmitted in the first block, N is a predetermined integer constant specifying the length of a part of the sequence of data transmitted in a transmission block of said third type,]~~ and INT is a function returning the integer part of its argument.

5. (Currently Amended) The [A] method according to claim 1, [characterized in that] wherein the first transmitted block further comprises a field containing ~~[information about]~~ a parameter of encoding of the subsequent blocks.

6. (Currently Amended) The [A] method according to claim 1, [characterized in that] wherein the method is used in a microwave radio link system.

7. (Currently Amended) A transmitter of a microwave radio link system, ~~[characterized in that the transmitter comprises at least]~~ comprising:

[-] means for splitting an arbitrarily sized sequence of data to be transmitted into at least two portions [blocks], a first portion [block] of said at least two portions [blocks] having a predetermined size M, a second portion of said at least two portions having a variable length S which is less than a second predetermined length N;

[-] means for indicating ~~[specifying the]~~ a total length of said arbitrarily sized sequence, wherein said indication is appended to said first portion and both are transmitted in [said] a first block, and wherein said second portion is transmitted in a second block;

[-] means for encoding said blocks for transmission~~[;]~~; and

[-] means for transmitting said blocks, said first block first.

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8. (Currently Amended) The [A] transmitter according to claim 7, [characterized in that it] further compris[es]ing:

means for calculating the length S of the second portion [part] of the arbitrarily sized sequence of data, wherein the second portion is encoded in [the] a second transmission block, as

$$S = (\text{LENGTH} - M) \text{ MOD } N$$

where [M is the predetermined length of the part of the sequence of data transmitted in the first block, N is a predetermined integer constant,] LENGTH is the total length of the sequence of data, and MOD is the modulo function.

9. (Currently Amended) The [A] transmitter according to claim 7, [characterized in that] wherein said means for splitting is arranged to split said arbitrarily sized sequence of data into a first portion [block], a second portion [block] and at least one third portion [block] if said arbitrarily sized sequence of data is longer than the sum of [two predetermined lengths,] the [two] first and second predetermined lengths (N + M), and wherein [being the length of the part of the sequence of data transmitted in the first block and the] a length of [a part] each of said [of the sequence of data transmitted in a] at least one third portion [block] is N.

10. (Currently Amended) The [A] transmitter according to claim 9, [characterized in that it] further compris[es]ing:

means for calculating a [the] number F of said third transmission blocks as

$$F = \text{INT}(\text{LENGTH} - M)/N$$

where LENGTH is the length of the sequence of data to be transmitted, [M is the length of the part of the sequence of data transmitted in the first block, N is a predetermined integer constant specifying the length of the part of the sequence of data transmitted in a transmission block of said third type,] and INT is a function returning the integer part of its argument.

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11. (Currently Amended) A receiver of a microwave radio link system, ~~characterized in that the receiver~~ compris[es]ing:

- [-] means for receiving and decoding a first transmission block comprising a first portion ~~[part]~~ of an arbitrarily sized data sequence to be received[-];
- [-] means for determining ~~the~~ a total length of said arbitrarily sized data sequence on the basis of information in said first transmission block[-];
- [-] means for determining ~~the~~ a variable length S of a second transmission block to be received at least partly on the basis of said determined total length of said arbitrarily sized data sequence[-]; and
- [-] means for determining ~~the~~ a number F of ~~[at least]~~ one or more third transmission blocks to be received, if any.

12. (Currently Amended) An access point of a microwave radio link system, ~~characterized in that the access point~~ compris[es]ing:

a transmitter ~~[according to claim 7]~~ comprising:

- means for splitting an arbitrarily sized sequence of data to be transmitted into at least two portions, a first portion of said at least two portions having a predetermined size M, a second portion of said at least two portions having a length S which is less than a second predetermined length N;
- means for indicating a total length of said arbitrarily sized sequence, wherein said indication is appended to said first portion and both are transmitted in a first block, and wherein said second portion is transmitted in a second block;
- means for encoding said blocks for transmission; and
- means for transmitting said blocks, said first block first.

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13. (Currently Amended) ~~The [An]~~ access point according to claim 12, ~~[characterized in that the access point]~~ further compris[es]ing:

a receiver comprising:

[-] means for receiving and decoding a first transmission block comprising a first portion [part] of an arbitrarily sized data sequence to be received[;];

[-] means for determining ~~[the]~~ a total length of said arbitrarily sized data sequence on the basis of information in said first transmission block[;];

[-] means for determining ~~[the]~~ a length S of a second transmission block to be received at least partly on the basis of said determined total length of said arbitrarily sized data sequence[;]; and

[-] means for determining ~~[the]~~ a number F of [at least] one or more third transmission blocks to be received, if any

14. (Currently Amended) A terminal of a microwave radio link system, ~~[characterized in that the terminal]~~ compris[es]ing:

a receiver ~~[according to claim 11]~~ comprising:

means for receiving and decoding a first transmission block comprising a first portion of an arbitrarily sized data sequence to be received;

means for determining a total length of said arbitrarily sized data sequence on the basis of information in said first transmission block;

means for determining a length S of a second transmission block to be received at least partly on the basis of said determined total length of said arbitrarily sized data sequence; and

means for determining a number F of one or more third transmission blocks to be received, if any.

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15. (Currently Amended) The [A] terminal according to claim 14, [characterized in that the terminal] further compris[es]ing:

a transmitter comprising:

[-] means for splitting an arbitrarily sized sequence of data to be transmitted into at least two portions [blocks], a first portion [block] of said at least two portions [blocks] having a predetermined size M, a second portion of said at least two portions having a length S which is less than a second predetermined length N;

[-] means for indicating [specifying the] a total length of said arbitrarily sized sequence, wherein said indication is appended to said first portion and both are transmitted in [said] a first block, and wherein said second portion is transmitted in a second block;

[-] means for encoding said blocks for transmission[_s]; and

[-] means for transmitting said blocks, said first block first.

16. (New) A method for transmitting an arbitrarily sized sequence of data over an air interface in a cellular telecommunications system, comprising the steps of:

transmitting a first transmission block with a first data portion of a first predetermined length M from the arbitrarily sized sequence of data, and a field indicating a total length T of the arbitrarily sized sequence of data;

if the total length T of the arbitrarily sized sequence of data is greater than M, transmitting a second transmission block with a second data portion of variable length S from the arbitrarily sized sequence of data, wherein S is less than a second predetermined length N; and

if the total length T is greater than the sum of M and the second predetermined length N, transmitting one or more third transmission blocks, each third transmission block having a data portion of length N from the arbitrarily sized sequence of data;

whereby a receiver of the arbitrarily sized sequence of data may determine a number and size of all transmission blocks, if any, after the first transmission block from the field indicating length T in the first transmission block.

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17. (New) The method according to claim 16, further comprising the step of:
calculating the length S of the second transmission block using the formula:

$$S = (T - M) \text{ MOD } N$$

wherein MOD is the modulo function.

18. (New) The method according to claim 16, further comprising the step of:
calculating a number F of one or more third transmission blocks using the formula:

$$F = \text{INT}((T - M)/N)$$

where INT is a function returning the integer part of its argument.

19. (New) The method according to claim 16, wherein the method is used for transmission of broadcast messages from an access point to an access terminal in the cellular telecommunications system.

20. (New) The method according to claim 19, wherein the access terminal is a fixed substation in the cellular telecommunications system.

21. (New) The method according to claim 19, wherein the access point and the access terminal comprise a HIPERACCESS or HIPERLAN system.

22. (New) The method according to claim 16, wherein the method is used for transmission of broadcast messages from a single point to many points (PMP) in the cellular telecommunications system.

23. (New) The method according to claim 16, wherein the method is used for transmission of microwave radio broadcast messages in the cellular telecommunications system.

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24. (New) The method according to claim 16, wherein a value for the predetermined length M is selected to be not much larger than a length of some frequently repeating short message.

25. (New) The method according to claim 16, further comprising the step of:
applying error correction coding to the data portions of the transmission blocks.

26. (New) The method according to claim 25, further comprising the step of:
placing an indication of a type of error correction coding used in each of the transmission blocks.

27. (New) The method according to claim 25, wherein the step of applying error correction coding to the data portions of the transmission blocks comprises the steps of:
calculating, for each transmission block, at least one parity symbol from the data portion of the transmission block;
placing the calculated at least one parity symbol in the transmission block.

28. (New) The method according to claim 27, wherein a determined number of at least one parity symbol is used on the data portions in the one or more third transmission blocks, the method further comprising the step of:
placing an indication of said determined number in the first transmission block.

29. (New) The method according to claim 16, further comprising the step of:
if T is less than M , padding the arbitrarily sized sequence of data in order that its length equals M , and using the padded sequence as the first data portion in the first, and only, transmission block.

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30. (New) The method according to claim 16, wherein the step of, if the total length T is greater than M , transmitting a second transmission block with a second data portion of variable length S from the arbitrarily sized sequence of data, comprises the steps of

determining a length R of a remaining portion of the arbitrarily sized sequence of data without the first data portion of length M ;

if R is less than N , using the remaining portion of the arbitrarily sized sequence of data as the second data portion of the second, and last, transmission block; and

if R is greater than N ,

using a portion of length S from the remaining portion of the arbitrarily sized sequence of data as the second data portion for the second transmission block, wherein S equals a remainder portion of the remaining portion after subtracting a largest multiple of N therefrom, and

using one or more portions, each of length N , from the remaining portion without the second portion of length S of the arbitrarily sized sequence of data as the one or more third data portions of the one or more third transmission blocks.

31. (New) The method according to claim 1, wherein the first transmission block has a predetermined length L_1 .

32. (New) The method according to claim 16, wherein the first transmission block has a predetermined length L_1 .